Installation Instructions 1

Warning

Do not use a concentration of caustic higher than the recommended value (as shown below) (11 grams /3 liter) as this may lead to excessive electrical energy being wasted as thermal energy and seeping of the caustic powder from the joints of the sealed unit.

Having a low concentration of caustic is ideal as more energy is used into the oxidation / reduction of water into hydrogen and oxygen, rather on the “redox”. of the caustic…. Greater efficiency = more gas with less electrical load

Congratulations!

You have made a good decision in purchasing a “ Hydrogen Generator” System. Properly installing and using this device will make a significant contribution to both your own well-being and the well-being of the world you live in.

Getting started: Note ! If you are installing the “Hydrogen generator system” on a diesel engine you must route the Hydrogen transmission hose to a location UPSTREAM of the turbo, that is, on the LOW PRESSURE side of the turbo, in the air-intake cowling, or into the mouth of the air intake cowling, if you can access it.

General Installation Guidelines

One of the advantages of using this system is that it can be provided to you preassembled with power supply PWM, electrolyte storage cell, wiring, switches, ammeter, electrolysis cells and hydraulic / pneumatic tubing all connected and mounted. Your only task is to mount the wiring from the battery/ alternator to the cell enclosure and connect the delivery tubing from the cell enclosure to the air / fuel intake on the engine. After that you can move the cell assembly from one vehicle to the next etc with ease.

The cell enclosure is an extra large marine battery box and cover which can be placed and secured in any position in the vehicle (often there is no room under the bonnet but room in the rear of the vehicle)

Because of the thousands of ever-evolving vehicle configurations in the marketplace, we cannot offer specific, detailed, instructions to precisely fit every possible installation. The following guide is designed to present a typical installation, which the installer can use as guidance in installing the device in his/her own vehicle. This is a relatively simple process and should be handled with ease by any professional mechanic or mechanically-inclined individual with the appropriate tools.

Installation Instruction:

Material required:

1). 5m, 80 amp double insulated wring;
2). 5m, 10mm Ø HDPE air brake tubing;
3). One 30amp breaker/circuit breaker ;
4). 2m harness strap & securing tabs;
5). Gas bubbler & three brass push bock fittings;
6). Electronic fuel enhancer unit (EFIE);
7). Potassium hydroxide pellets; Sodium Hydroxide pellets
8) Five litres of distilled water

Installation

1. You can begin by determining where you want to locate the " Hydrogen generator system" in/on your vehicle. Then determine a path to route the Hydrogen hose and electrical wires from the system device to the engine compartment. You should remember that you will most likely want to run the hose and wires together along a frame member or other similar under-vehicle location where you can attach mechanic's wire or plastic ties to hold them in place. You MUST keep both the Hydrogen transfer hose and electrical wire at least 12" from the exhaust pipes and exhaust manifold to prevent them from burning, shorting, or melting

2. Decide where you want to locate the " generator" in/on your vehicle. Then determine a path to route the Hydrogen hose and electrical wires from the "generator" device to the engine compartment.. You should remember that you will most likely want to run the hose and wires together along a frame member or other similar under -vehicle location where you can attach mechanic's wire or plastic ties to hold them in place. You MUST keep both the Hydrogen transfer hose and electrical wire at least 12" from the exhaust pipes and exhaust manifold to prevent them from burning, shorting, or melting.

3. For inside-vehicle, in-trunk, in-truck-bed, or in-commercial-cargo-bay installations: Once you have determined where you want to locate your "Generator" system, find a place where you can drill one 3/4" hole for the Hydrogen transfer line and one 3/8" hole for electrical leads (80 amp double insulated cable) to the engine compartment. Drill through the vehicle deck to the underside of the vehicle

4. Make sure you stay clear of the fuel tank, brake lines, and any other obstructions which would make it difficult for you to push or pull the Hydrogen transfer hose and electrical cable through the holes you have drilled. Then either push or pull the Hydrogen transmission hose through the 3/4" hole you drilled, providing enough slack in the hose near the "Generator" system to allow you to connect to the push lock fitting on the outside of the system

5. You might want to wrap the transmission Hose with duct tape or apply appropriate size split wire loom where it passes through the vehicle deck in order to reduce the possibility of eventual wear on the Hydrogen transmission hose. Alternatively push the tubing through 12 mm inter nal diameter reinforced water tubing and fix this water tubing to the underside of the vehicle with metal cable ties / connectors.

6. An experienced Automotive electrician should be used to connect the cable to the Battery /alternator so that it is activated from the alternator via a relay switch . Thus when the engine stops

and the alternator stops working , then the Relay supplying electrical Power to the Generator system , switches off. This prevents the system working if the engine is not switched on and running.

7. Connect the 80amp double insulated cable to the battery positive cable via a 30amp circuit breaker and a 40amp relay unit. Connect a length of red 80amp wire to the positive terminal lug. Connect the other end of the wire to relay terminal _____. …Connect relay terminals _____ & _____ to the power lead connected to the oil pressure switch. (This will only activate the relay unit when the engine is running.) Connect a wire from relay terminal _____ to the first terminal of the 30amp circuit breaker. Connect the 2nd terminal of the circuit breaker to the red wire of the double insulated 30amp cable. Secure the black cable from the 80amp cable to the body /earth of the vehicle -- ----See diagram 1.

8. Then push or pull the 80 amp double insulated cable electrical wires through the 3/8" hole. Double insulated cable is used to protect them from possible wear and shorting. This cable is used to connect the Electrolysis system to the battery/ alternator in your vehicle engine bay.

9. Pass the double insulated cable through the vehicle cabin along the line of the wiring loom.

10. Attach the free end of the power cable to a 50amp Anderson Plug ------ to connect to the HHO generator.

11. Mount and secure the 10mm Ø air pipe to the underside of the vehicle using metal ties.

12. Pass one end of the pipe through the floor of the vehicle rear to connect to the HHO generator.

13. Locate an area on your air-intake cowling as near the air- intake termination at the throttle throat as you can conveniently access (On diesel engines, you MUST input the Hydrogen transmission hoses UPSTREAM from the turbo, on the LOW PRESSURE side of the turbo). Drill a 7/16" hole.

14. Remove the air-intake, or move it to a position where the drilling debris won't fall into the throttle throat or intake manifold. Re-attach the air-intake cowling and screw a 1/4" BSPT (threaded) x 10 mm Push lock fitting (provided with your “generator”) into the 1/4" BSPT hole you drilled in the air -intake. There is no need to over-tighten the fitting(s). If you strip the threads or have trouble satisfactorily affixing the fitting into the air-intake cowling, you can clean/degrease the area around the hole(s) and use any good plastic glue, epoxy, Sumo Glue, etc., to secure the fitting.

15. Attach the Hydrogen transmission hose (10 mm trucking air brake tubing) to the Push lock fitting you attached to your air-intake . You might double check to be sure you have chosen a route for the hose and wire that will avoid the hot exhaust manifold and exhaust pipes as well as avoiding any moving mechanisms that would entangle, crimp, or rub the hose. Again, it would be a good idea to follow the same path as the electrical Cable so the hose and the cable can be bundled with electrical or duct tape as you attach and support them with plastic ties and/or mechanics wire as they traverse along the vehicle framework between the location of the “ generator” and the engine compartment.

Setting up Generator

1. Add distilled or rain water to recycle tank until it is 2/3 full with the pump running

2. Weigh 15 grams of Potassium Hydroxide Pellets and dissolve them into 50 mls of water. This will serve as your concentrated solution

3. Turn both potentiometer switches of the PWM fully clockwise. This places the PWM into the 100% duty cycle position so that the unit is 100% switched on

4. The power supply should now be connected and switched on

5. Gradually add the Potassium Hydroxide solution to the recycling container in small amounts, while watching the current flow increase towards 20 amps and then stop. The mixture should now be correct

6. Continue to add solution to the tank and note the current flow increase towards 16 amp

7. Once 16 amps has been reached, adjust both Potentiometers anticlockwise by one quarter of a turn until the current drops to 15 amp

8. Operating the system will slowly increase the solution to operating temperature of 70 degrees Celsius during which time the current flowing will rise to a stable current of 28 amp

9. Run the system and after one hour of operation , recheck the current flowing. Readjust the current flowing to a maximum of 28 to 30 amp. This is the operational value and you should not need to readjust the unit again. With each trip the current flowing will rise as the temperature of the solution rises , to a maximum of 28 amp.

DO NOT EXCEDE THIS CURRENT FLOW AS IT MAY LEAD TO INTERNAL DAMAGE WITHINN THE SYSTEM ELECTRONICS.

10. Add water to the recycling tank till it is 8cm from the top. The tank is now holding 2.5 Liters of a very dilute caustic solution.

11. The gas piping is connected to the air intake pipe prior to the throttle body and prior to any turbo charger fitting.

12. Use a Brass male/female Push-lock fitting (1/4 inch BSPT) to screw into the tapped hole on the air intake pipe. Push the pipe securely into the 10mm “Female” connection

Mounting the HHO system:

1. Attach the 2 strap / “ Battery strap” m vehicle in desired location.

2. Pass securing strap through the two mounting Brackets.

3. Place HHO system enclosure in position on top of strap.

4. Connect 2 free ends of the strap together and tighten, securing the system enclosure in position.

5. Connect the Anderson plug attached to the 80amp double insulated cable. To the Anderson plug on the exterior of the HHO Gen 10 or Gen 15 or Gen 20 system

6. Push the free end of the 10mm Ø gas pipe into the push-lock bulkhead fitting on the front of the system enclosure.

7. Turn on Master switch, turn on engine.

8. Check current flow in the HHO generator. Maximum current cold is 18 amp.

Bubbler installation:

1. Materials required: a) 10" water purifier housing, ¼" BSPT fittings size b) 1m of 10mm external diameter plastic PVC tubing c) two push lock fitting, 10mm & ¼" BSPT

2. Screw in the two ¼" × 10mm BSPT fittings into the two ports at the housing.

3. Cut a length of 10mm Ø pipe to a length of 8" or 12cm.

4. Push the 12cm length of pipe into the port in the underside of the top of the filter housing

5. Mount the "bubbler housing" in a conveni close to the HHO Generator system.

6. Connect a 10mm Ø tube from the Generato housing.

7. Connect a 10mm Ø tube from the " Inlet" of pipe on the engine before the throttle body. –

This arrangement means that gas from the HHO Generator will Bubble through the Housing. – If you have connected the pipes to the wrong fittings, gas pressure will try to force water into the engine. Stop this by correctly fitting the gas pipes.

8. Gas from the HHO Generator should bubble to clean and dry the gas before being passed into the engine.

9. The Bubbler also acts as a flash arrestor in the event of an engine " backfire'. A flash arrestor may also be used between the bubbler and the engine.

Adjust EFIE Unit:

The EFIE unit used has 2 versions Diesel unit –3 enhancer "pots" - Petrol unit –5 enhancer 'pots'

Follow the instructions "Provided"on the we

http://www.hydrogenfuelsystems.com.au under the headings
http://hydrogenfuelsystems.com.au/resources/#!

Electronic Fuel Enhancer Tuning

A Petrol unit requires you to locate and tap into the sensors for:

1. MAP sensor

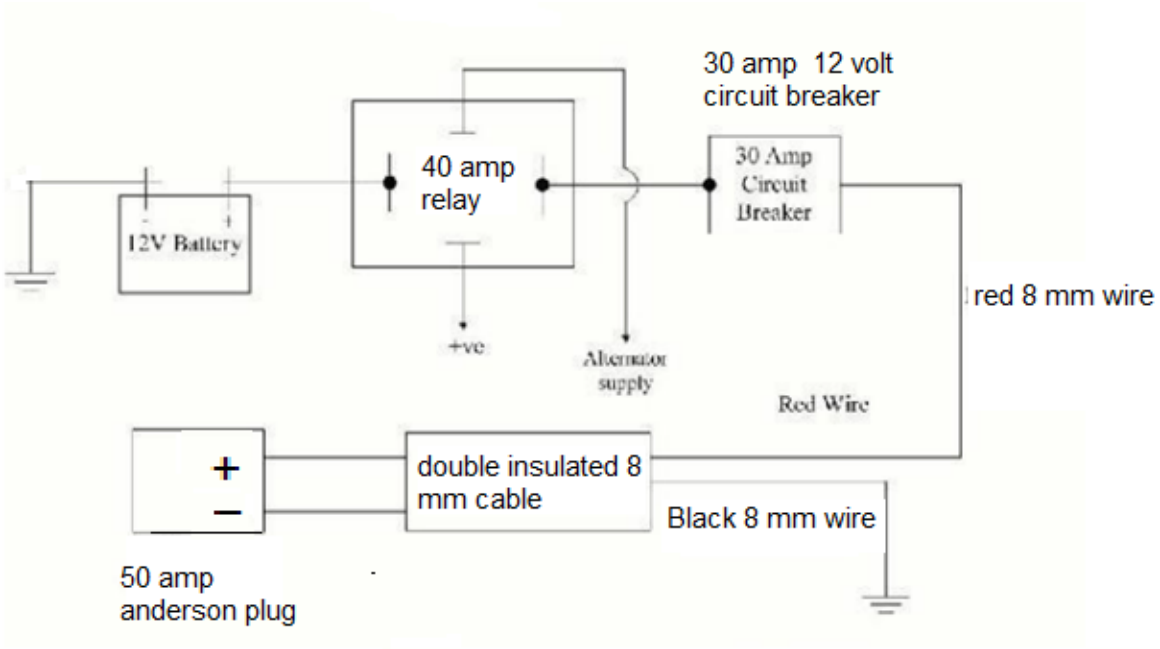
2. Pre-catalytic converter sensor O2 –may be wide bank or narrow band

3. Post- Catalytic converter Oxygen sensor- only narrow band

4. Air intake temperature sensor –normally located on the MAF/MAP sensor (AIT) (IAT)

5. Coolant temperature sensor –some cars have two. You must only use the 5 Volt powered sensor. You must locate these sensors and follow instructions to tap into the signal (CWT sensor).

Diagram



1 Installation instructions of EFIE are found on my website: http://hydrogenfuelsystems.com.au/resources/#!

Electronic Fuel Enhancer Tuning The 30amp relay is switched on when the Alternator /Generator is on or when the oil pressure switch is on –ie. When the engine is running.

A diesel/EFIE unit requires you to locate and tap into the following sensors:

1. MAP/MAF sensor

2. Intake air temperature sensor

3. Coolant temperature sensor –5 Volt sensor only

Most vehicles use an analog control voltage MAF/MAP sensor. In the event of your engine having a frequency controlled MAF/MAP sensor, then a separate special enhancer unit will be required - details at this are at the end of this document. It is useful to adjust your EFIE enhancer unit with a special device called a

" 1. Scan guage II" or even better

2. the unit from www.ultra-gauge.com

These devices are only compatible with modern vehicles that have OBD2 ports to connect to the vehicle computer.

Follow tuning instructions to set the EIFE unit to best setting for maximum economy and power

Venting HHO Generator system:

1. A push lock Bulkhead fitting should be mounted in the lid of the HHO Generator.

2. A length of 10mm Ø piping should be connected to this bulkhead fitting.

3. The free end of the pipe should be passed through an insulated fitting in the floor of the vehicle near the location where the system is mounted/ secured.

4. This pipe will vent the contents of the generator system to the vehicle exterior and prevent pressure building up inside the generator.

Servicing the HHO System:

1. One litre of water should last 8 hour s of continuous operation. One litre will last 9 to 10 hours of stop/start city driving.

2. Add water to recycling container to bring it to the full mark –8cm from top of tank.

3. After 3 months of operation, the liquid should be flushed out and drained. New/Fresh solution should be used.

4. For trucks and other engines using a 24 volt, supplying one litre of water should last between 5 to 6 hours of continuous operation.

The “Hydrogen Generator system” is NOT a toy. This Hydrogen generator dry cell System can produce LARGE amounts of explosive Hydrogen gas. Do NOT use or experiment with the Hydrogen generator in unventilated or poorly ventilated spaces. Hydrogen explosive gas may accumulate to dangerous levels. Please do NOT let minor children play or experiment with the Hydrogen generator while unsupervised